



### **Carbon Nanotube Field Emitter Array**

Shown is an array of electron sources consisting of vertically aligned carbon nanotubes grown by chemical vapor deposition on the tops of microgated silicon posts. These NRL-invented nanotube “cold-cathode” devices have demonstrated very low voltage, high current density, and exceptional robustness, enabling many potential applications such as radio frequency amplifiers for communication, electric propulsion for microsatellites, and portable X-ray sources for field medical and security diagnostics.